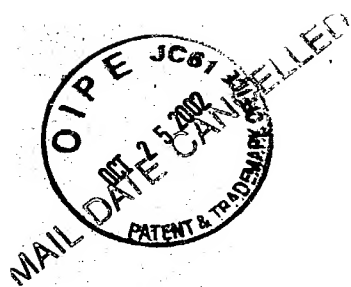


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Figure 1

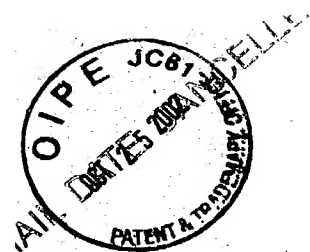


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Figure 2



09081050 44507

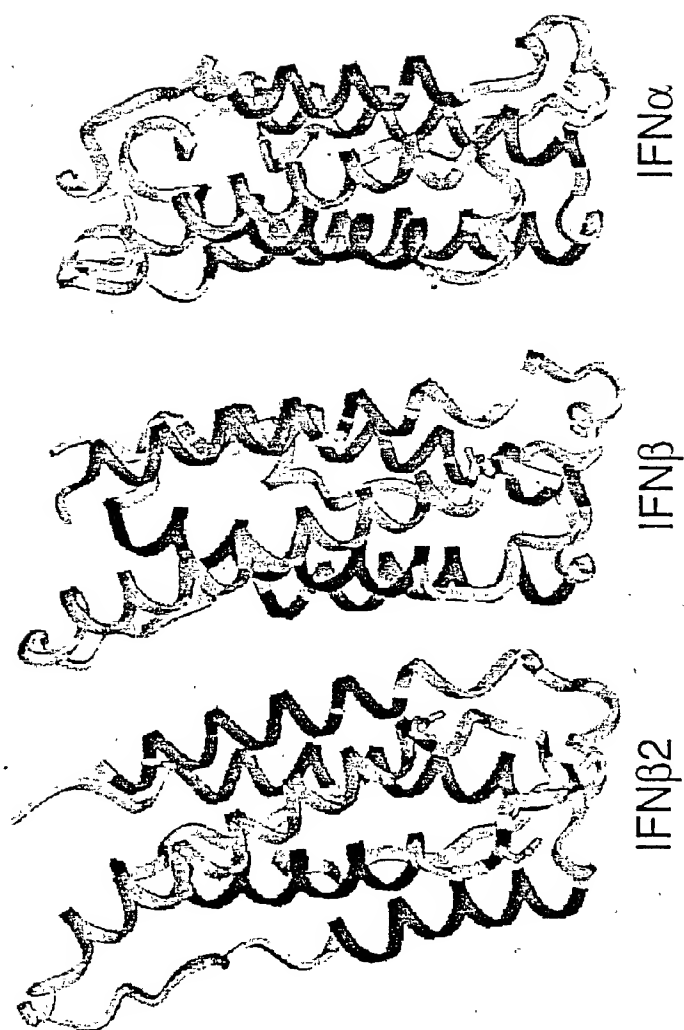
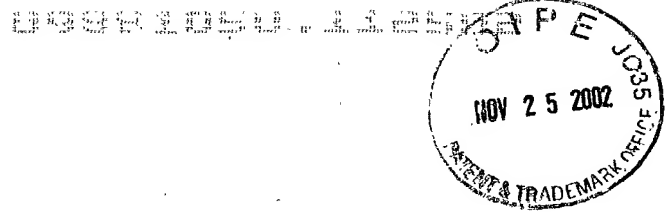
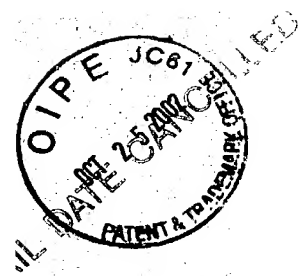


Figure 3



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IFNalpha8 (1) MALTFFYLLVALVLSYKSFSSSLGCDLPQTHS-LGNRRALILLAQMR-RISPFSCDKDRHDFEPQEEFDD  
IFNalpha7 (1) MARSFSLLMVVLVLSYKSIICSLGCDLPQTHS-LGNRRALILLAQMG-RISPFSCDKDRHDFEPQEEFDDG  
IFNalpha6 (1) MALPFALLMALVVLVLSYKSIICSLGCDLPQTHS-LGHRRTMMLLAQMR-RISLFSCLDKDRHDFEPQEEFDDG  
IFNalpha5 (1) MALPFVLLMALVVLNCKSIICSLGCDLPQTHS-LSNRRRTLMMAQMG-RISPFSCDKDRHDFEPQEEFDDG  
IFNalpha4b (1) MALSFSLLMAVLVLSYKSIICSLGCDLPQTHS-LGNRRALILLAQMG-RISHFSCDKDRHDFEPQEEFDDG  
IFNalpha21 (1) MALSFSLLMAVLVLSYKSIICSLGCDLPQTHS-LGNRRALILLAQMG-RISPFSCDKDRHDFEPQEEFDDG  
IFNalpha2 (1) MALTFFALLVALLVLSYKSIICSLGCDLPQTHS-LGSRRTLMMLLAQMR-RISLFSCLDKDRHDFEPQEEFDDG  
IFNalpha16 (1) MALSFSLLMAVLVLSYKSIICSLGCDLPQTHS-LGNRRALILLAQMG-RISHFSCDKDRHDFEPQEEFDDG  
IFNalpha14 (1) MALPFALLMALVVLVLSYKSIICSLGCDLPQTHS-LGNRRALILLAQMG-RISPFSCDKDRHDFEPQEEFDDG  
IFNalpha13 (1) MASPFALLMVLVVLVLSYKSIICSLGCDLPQTHS-LGNRRALILLAQMG-RISPFSCDKDRHDFEPQEEFDDG  
IFNalpha10 (1) MALSFSLLMAVLVLSYKSIICSLGCDLPQTHS-LGNRRALILLAQMG-RISPFSCDKDRHDFEPQEEFDDG  
IFNomega1 (1) MALLPFLLAALVMTSYSPVGLGCDLPQTHS-LGSRRTLMMLLAQMR-RISPFSCDKDRHDFEPQEEFDDG  
IFNgamma (1) MKYT-SYLLAFQICIVLGLGCDLPQTHS-LGSRRTLMMLLAQMR-RISPFSCDKDRHDFEPQEEFDDG  
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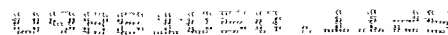
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IFNalpha8 (69) QOYQKQHTLAILHEMLQOIFSLFRANISLDGWEENHTKFLIQLHQOLEYLEALMGLEAEKLSGTLGSDN  
IFNalpha7 (69) QOYQKQHTLAILHEMLQOIFSLFRANISLDGWEENHTKFLIQLHQOLEYLEALMGLEAEKLSGTLGSDN  
IFNalpha6 (69) QOYQKQHTLAILHEMLQOIFSLFRANISLDGWEENHTKFLIQLHQOLEYLEALMGLEAEKLSGTLGSDN  
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IFNalpha21 (69) QOYQKQHTLAILHEMLQOIFSLFRANISLDGWEENHTKFLIQLHQOLEYLEALMGLEAEKLSGTLGSDN  
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IFNgamma (58) QOYQKQHTLAILHEMLQOIFSLFRANISLDGWEENHTKFLIQLHQOLEYLEALMGLEAEKLSGTLGSDN  
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141 210

IFNB2 (140) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
IFNB (139) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
IFNalpha8 (139) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
IFNalpha7 (139) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
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IFNalpha4b (139) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
IFNalpha21 (139) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
IFNalpha2 (138) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
IFNalpha16 (139) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
IFNalpha14 (139) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
IFNalpha13 (139) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
IFNalpha10 (139) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
IFNomega1 (139) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
IFNgamma (122) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR  
Consensus (141) LRLOVKMYFRRIHNDYLE-NQDYSTCAWATVQVEISRCLEFFVFSLEKLSKQGRPLNDMKQELTTEFRSPR

Figure 4



Phylogenetic tree showing the relationships between human IFN  $\alpha$  and  $\beta$  genes. The tree is rooted on the left. The main cluster of IFN  $\alpha$  genes includes IFN  $\alpha$ 2, IFN  $\alpha$ 5, IFN  $\alpha$ 6, IFN  $\alpha$ 13, IFN  $\alpha$ 14, IFN  $\alpha$ 16, IFN  $\alpha$ 21, IFN  $\alpha$ 10, IFN  $\alpha$ 4b, and IFN  $\alpha$ 7. IFN  $\alpha$ 8 is a sister taxon to this cluster. The IFN  $\beta$  genes (IFN  $\beta$ 2 and IFN  $\beta$ ) form a sister clade to the IFN  $\alpha$  cluster. IFN  $\gamma$  is the outgroup.

Phylogenetic tree of human IFN-α subtypes. The tree shows the evolutionary relationships between various IFN-α subtypes. IFN-α1 is the outgroup. The main cluster includes IFN-α2, IFN-α4, IFN-α6, IFN-α8, IFN-α10, IFN-α13, IFN-α14, IFN-α16, IFN-α21, IFN-α5, IFN-α7, IFN-α4b, IFN-α1, IFN-α3, and IFN-α3.2. The tree is rooted at the bottom left.

- IFN-α1
- IFN-α2
- IFN-α4
- IFN-α6
- IFN-α8
- IFN-α10
- IFN-α13
- IFN-α14
- IFN-α16
- IFN-α21
- IFN-α5
- IFN-α7
- IFN-α4b
- IFN-α1
- IFN-α3
- IFN-α3.2

Figure 5

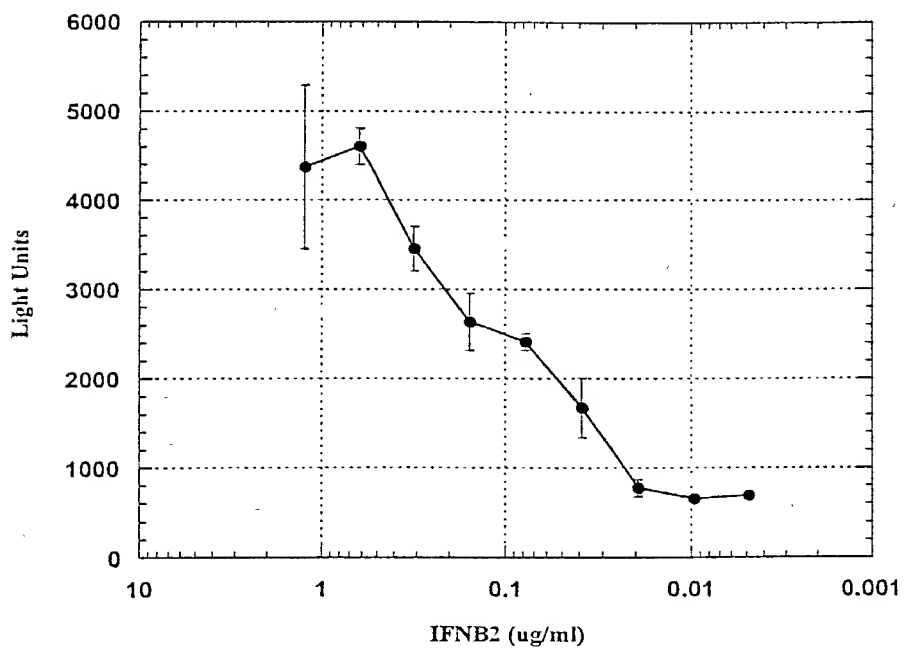
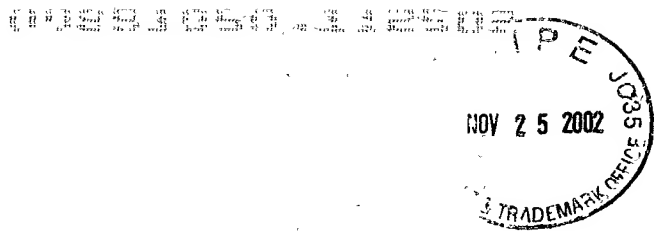


Figure 6

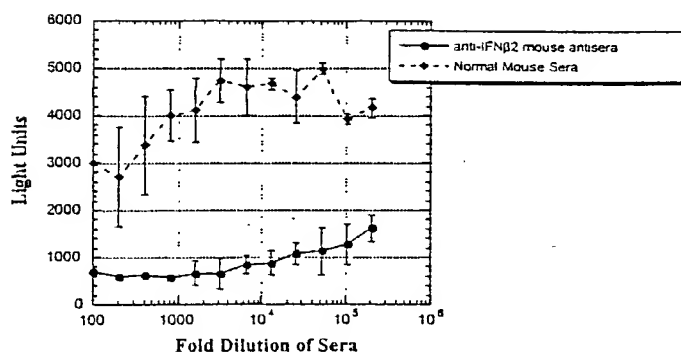
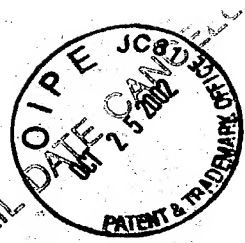
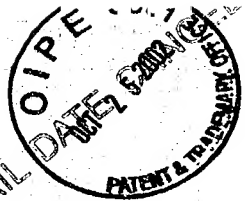


Figure 7



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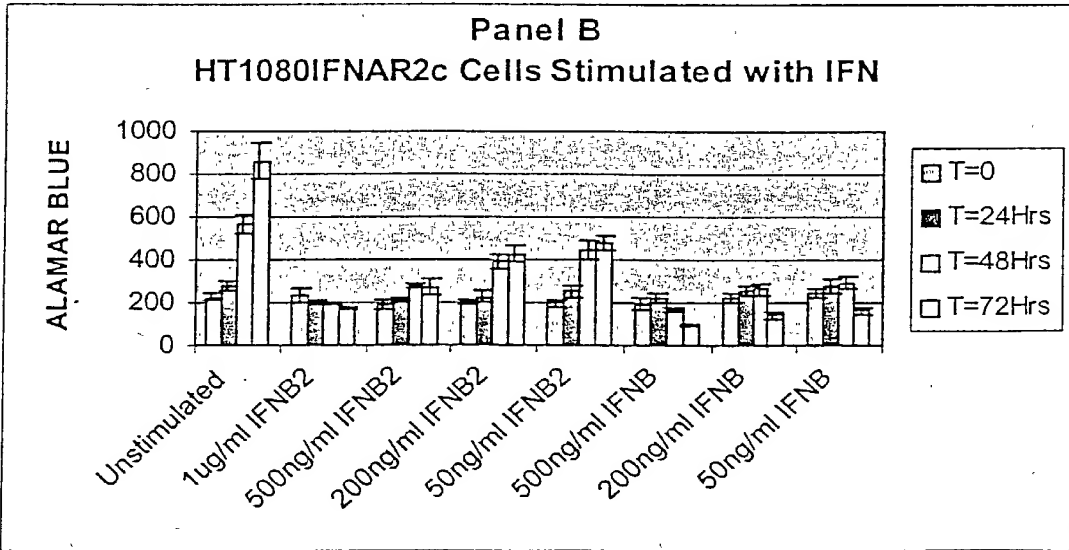
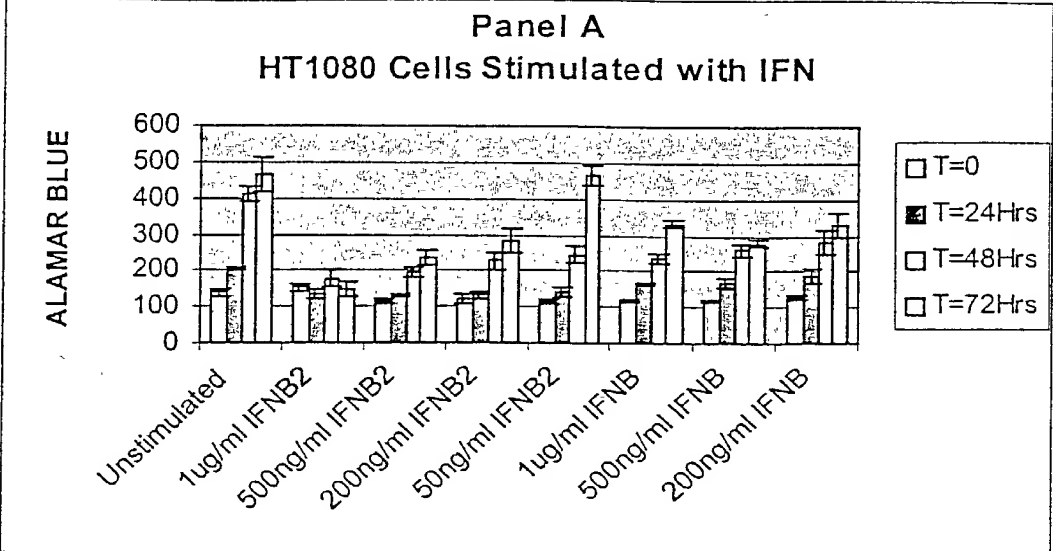


Figure 8





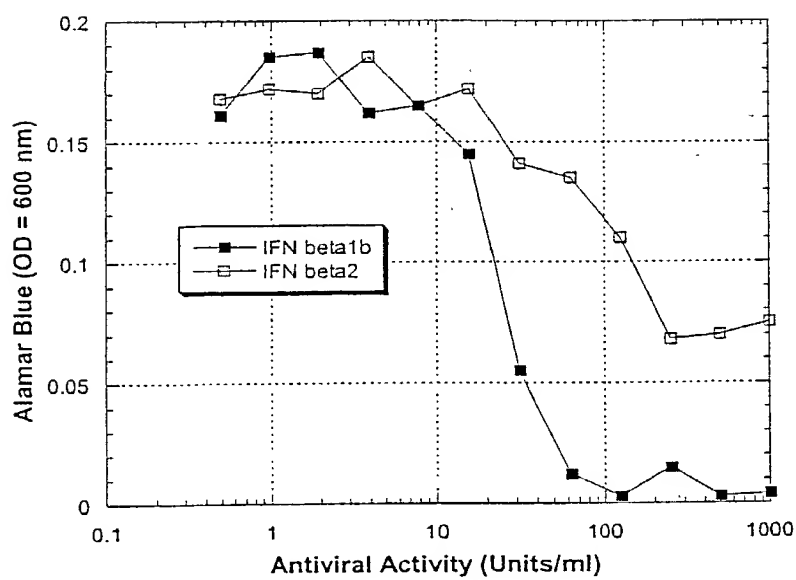
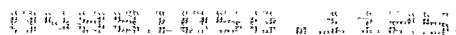
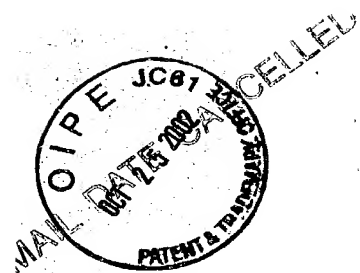


Figure 10



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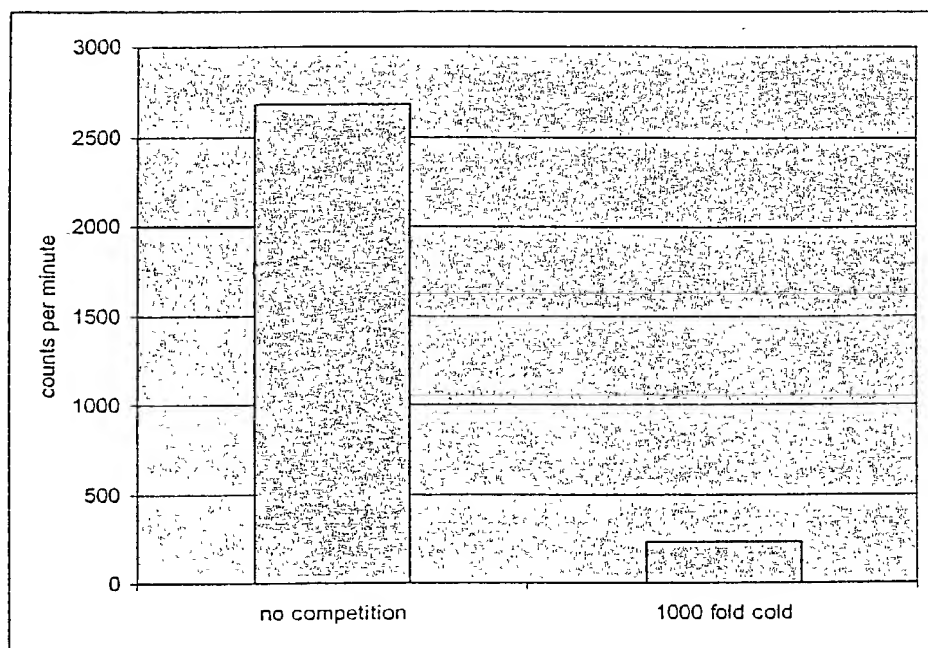
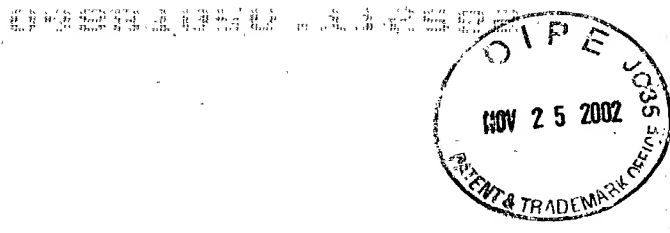
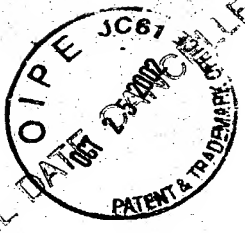
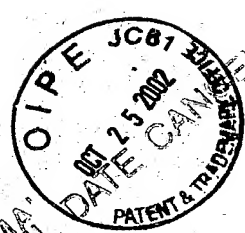


Figure 11



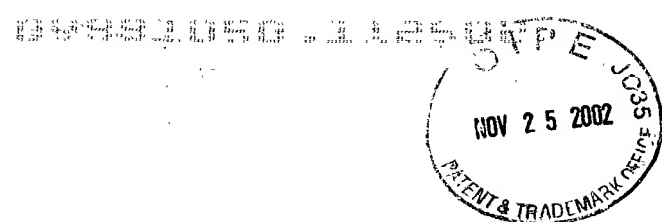
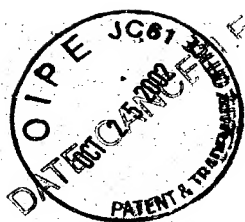
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301   caaaaataatc tgagatgcat gaaaggcaaa cattcactag agctggaatt tccctaagtc  
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Figure 12



361 atgatt atcaagcact tctttggaac  
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481 ccagcaaaga caagtgaatc aagaaagttt aaaactcttg aataagttgc aaaccttgtc  
541 aattcagcag tgtctaccac acaggaaaaa cttctctgctt cctcagaagt ctttgagtcc  
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Figure 13



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Figure 14

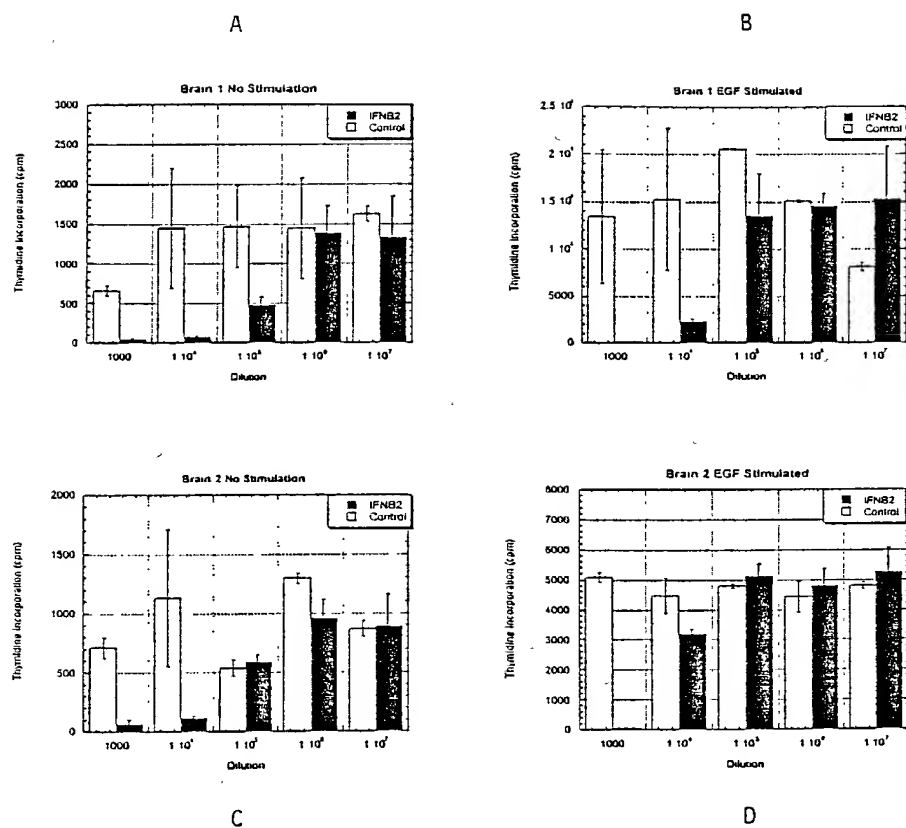
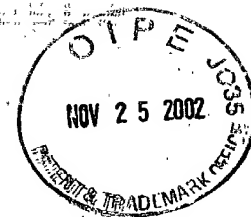
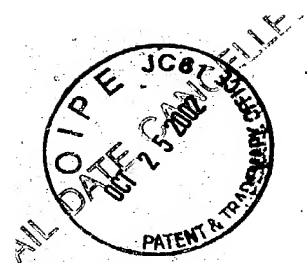


Figure 15